

REMARKS

Claims 1-17 are pending in the application. Claims 1, 5, 9, and 13 are independent claims. Claims 1-17 have been rejected under 35 U.S.C. 103(a). Those rejections are respectfully traversed and reconsideration is requested.

Rejections under 35 U.S.C. 103(a)

Claims 1, 3-5, 7-9, and 11-17 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Grinberg (U.S. Patent No. 5,384,568) in view of Tzeng (U.S. Patent No. 6,067,574). Claims 2, 6, and 10 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Grinberg and Tzeng in view of Nakatsu (U.S. Patent No. 5,787,151).

Before discussing the cited references, however, a brief review of the Applicants' disclosure may be helpful without limiting the claims. The Applicant's disclosure is directed to a method and apparatus for updating a lookup table. Referring to Fig. 23, access is provided to a first set of routes (r6, h1) that are stored in the nodes of a first subtree (B₂ 2006) that is part of a larger tree. A second set of routes (r6, h1, h2) is stored in the nodes of a second subtree (B₂' 2008), which is stored separate from the larger tree (i.e., disconnected from the larger tree). Both sets of routes are accessed through pointers to their respective subtree root nodes. During an update of the lookup table, in this case the addition of route h2, the first set of routes (r6, h1) in the first subtree (B₂ 2006) remains accessible to the lookup table via the first pointer while the new route (h2) is added to the second subtree (B₂' 2008). In order for the lookup table to gain access to the updated routes (r6, h1, h2) of the second subtree (B₂' 2008), access is switched from the first set of routes to the second set of routes by replacing the first pointer with the second pointer and, therefore, replacing the first subtree (B₂ 2006) with the second subtree (B₂' 2008). (See Applicant's Specification, page 43, line 12 – page 45, line 6, and Fig. 23.)

Turning to the cited references, Grinberg discusses a method and circuitry for compressing an incoming data stream consisting of a number of tokens into an outgoing compacted data stream using a plurality of lists. Tree splaying operations are used in manipulating elements of the lists, a number of which (i.e., "zig," "zig-zig," and "zig-zag" operations) are discussed in conjunction with Figs. 9-16. The "zig" operation is described in

conjunction with Figs. 9-12, the “zig-zig” operation is described in conjunction with Figs. 13 and 14, and the “zig-zag” operation is described in conjunction with Figs. 15 and 16. (See Grinberg, col. 4, line 57 – col. 5, line 10, and col. 12, line 1 – col. 13, line 7.)

Cited reference Tzeng discusses a traditional prefix tree structure that may be partitioned into multiple trees in such a way as to allow compression. Cited reference Nakatsu discusses a method and system for creating customized audio greeting cards through use of a telephone, and is cited for the purpose of teaching memory deallocation.

Grinberg, Tzeng, and Nakatsu, either separately or in combination, do not teach or suggest “*providing access to a first set of routes stored in nodes of a first subtree within a tree ... [and] storing a second set of routes in nodes of a second subtree disconnected from the tree*” as now claimed in independent Claim 1.

With reference to Fig. 14, Grinberg discloses a tree that includes a subtree C 1406 within a larger subtree Z (1430, 1406, 1407), and a subtree B 1405 that is not part of the larger subtree Z (1430, 1406, 1407). The examiner states that subtree B 1405 is separate from the larger subtree Z (1430, 1406, 1407). While technically correct, the term “separate” as previously used in Claim 1 was meant to be interpreted as more than simply “not part of.” Unfortunately, the Examiner appears to have given the term “separate” an interpretation of broader meaning. Accordingly, Claim 1 has been amended to include the term “disconnected” instead of “separate.” As can be seen in Fig. 14 of Grinberg, subtree B 1405 is connected to the larger subtree Z (1430, 1406, 1407) by node Y 1402, thus, Grinberg does not disclose “*a second subtree disconnected from the tree.*”

With respect to Tzeng, while a tree with a left child (first subtree) and a right child (second subtree) is disclosed (see Tzeng, col. 2, lines 18-45), Tzeng does not teach or suggest that the first subtree is part of a larger tree while the second subtree is disconnected from that larger tree. With respect to Nakatsu, the use of trees is not disclosed. Therefore, the cited references, either separately or in combination, do not teach or suggest “*a second subtree disconnected from the tree*” as now claimed in Claim 1.

Furthermore, Grinberg, Tzeng, and Nakatsu, either separately or in combination, do not teach or suggest “*switching access to the second set of routes stored in the second subtree by replacing the first pointer to the first subtree root node with the second pointer to the second*

subtree root node to update the tree by replacing the first subtree with the second subtree” as claimed in independent Claim 1.

The examiner refers to Figs. 14 and 16 of Grinberg to show that a first subtree C 1406 is replaced with a second subtree B 1405; however, Fig. 16 does not correspond to Fig. 14 as they are used in separate examples. Figs. 13 and 14 are used in illustrating a “zig-zig” operation, while Figs. 15 and 16 are used in illustration a “zig-zag” operation; thus, subtrees B 1405 and C 1406 of Fig. 14 do not correspond with subtrees B 1606 and C 1605 of Fig 16. Therefore, Grinberg does not disclose *“switching access ... by replacing the first subtree with the second subtree.”*

With respect to Tzeng, even if the disclosed left and right child nodes were construed in such a way as to correspond to the first and second subtrees of the present application, Tzeng does not switch access from the left child node to the right child node, as both the left and right child nodes are always accessible. With respect to Nakatsu, the use of trees is not disclosed. Therefore, the cited references, either separately or in combination, do not teach or suggest *“switching access ... by replacing the first subtree with the second subtree”* as claimed in Claim 1.

Furthermore, there is no suggestion or motivation to combine the Grinberg, Tzeng, and Nakatsu references as one skilled in the art would not be motivated to combine a method for compressing an incoming data stream, a method for partitioning a prefix tree structure, and a method for creating customized audio greeting cards when providing a method and apparatus for updating a lookup table. Thus, there is no suggestion or motivation to combine Grinberg, Tzeng, and Nakatsu. As discussed above, even if combined, Grinberg, Tzeng, and Nakatsu do not teach or suggest the Applicants’ method or apparatus for updating a lookup table.

Independent Claims 5, 9, and 13 are similar to Claim 1 and should be found in allowable condition for the same reasons as discussed above for independent Claim 1.

Dependent Claims 2-4, 6-8, 10-12, and 14-17 are directly or indirectly dependent on independent Claims 1, 5, 9, or 13 and thus are novel and nonobvious over the cited art for at least the same reasons as discussed above for independent Claims 1, 5, 9, and 13.

Therefore, separately or in combination, Grinberg, Tzeng, and Nakatsu do not teach or suggest the Applicants’ claimed invention. Thus, none of the cited art alone or in combination

makes obvious the Applicants' claimed method and apparatus for updating a lookup table. As such, the 35 U.S.C. 103(a) rejections of Claims 1-17 are believed to be overcome.

Accordingly, the present invention as claimed is not believed to be anticipated or made obvious from the cited or prior art. Removal of the rejections under 35 U.S.C. 103(a) and acceptance of Claims 1-17 is respectfully requested.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

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